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## The role of contrast in deletion processes

# The Role of Contrast in Deletion Processes

Kirsten Gengel\*

## 1 Introduction

This paper discusses the role of contrast in deletion processes. I will argue that contrastive elements are moved out of phrases that will subsequently be deleted. This idea is implemented via a [contrastive] feature on contrastive elements. This feature interacts with the E-feature, which specifies phrases for deletion. The approach will be discussed in detail for two cases of ellipsis, namely pseudogapping and gapping.

## 2 Pseudogapping

For the purpose of exploring contrast in deletion processes, the most interesting case is the pseudogapping construction in (1). Pseudogapping, occurring mostly in comparatives, combines the properties of VP-ellipsis (2) and gapping (3) in having a finite auxiliary (like VP-ellipsis) and a contrastive remnant (like gapping). It is this contrastive remnant that will constitute the main point of this paper.

- |     |   |                      |
|-----|---|----------------------|
| (1) | John invited Sarah, and Mary will _ Jane. | <i>Pseudogapping</i> |
| (2) | John read more books than Sue did papers. | <i>Comparative</i>   |
| (3) | John invited Sarah, but Mary didn't.      | <i>VP Ellipsis</i>   |
| (4) | John invited Sarah, and Mary _ Jane.      | <i>Gapping</i>       |

Previous analyses, notably by Jayaseelan (1990) and Lasnik (1999), have treated pseudogapping as an instance of either incomplete VP deletion, or an instance of VP-ellipsis, where the remnant has moved out of the VP prior to deletion. The syntactic configurations put forth in these accounts, however, do not address the specific contrastiveness of the pseudogapping remnant. In the following section, I will show how the structural framework proposed by Lasnik can be modified and extended to account for this particular property of pseudogapping.

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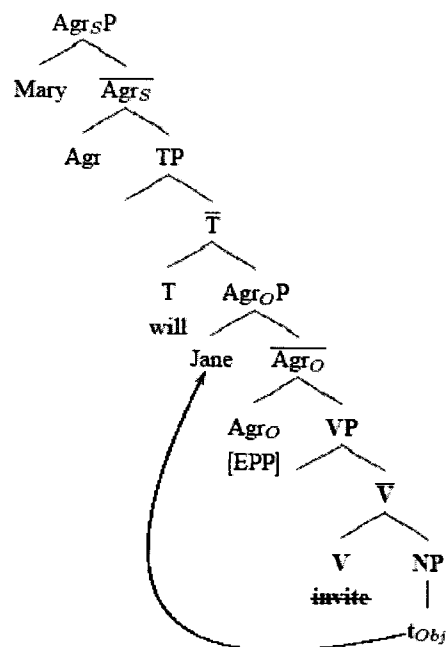
\*I thank Artemis Alexiadou, Tom McFadden, Anna McNay, Sabine Mohr, Winnie Lechner, and the audience at PLC 30 for helpful discussion.

### 3 The Standard Approaches to Ellipsis

#### 3.1 A Syntactic Analysis of Pseudogapping: Lasnik (1999)

Lasnik considers pseudogapping to be a case of VP-ellipsis and proposes that the remnant object moves out of the VP via object shift to the Agr<sub>O</sub> projection. This analysis is illustrated in the tree structure in (5).

- (5) John invited Sarah, and Mary will [Agr<sub>O</sub> Jane<sub>i</sub>] [VP ~~invite~~ t<sub>i</sub>]



The movement of the object is taken to be due to an EPP-feature for objects, residing in [Spec, Agr<sub>O</sub>]. As for the verb, Lasnik assumes (non-standardly) that *all* verbs raise in English.<sup>1</sup> In pseudogapping, however, the verb stays low inside the VP. Whilst its features are moved and checked, its

<sup>1</sup>Lasnik (1995, 1999) uses a split-VP structure, in which a second VP layer is added above Agr<sub>O</sub>P to accommodate the raised verb in non-pseudogapping sentences. As verb raising is irrelevant in pseudogapping, given Lasnik's argumentation, I omit this part of the structure here for clarity of exposition.

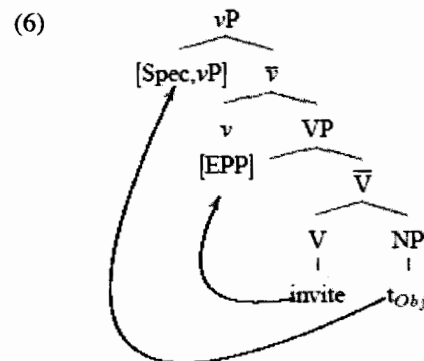
lexical content fails to be pied-piped along with the features. To prevent the derivation from crashing at PF, the VP, including the offending material, is deleted.

### 3.2 Modifying Lasnik's Analysis

As outlined above, Lasnik's (1999) approach crucially relies on two properties: the EPP for objects, and the non-movement of the verb. The aim of this chapter consists of finding a mechanism that also incorporates the presence of obligatory focus features on the pseudogapping remnant, since pseudogapping differs from other constructions for which Lasnik (2001) assumes the same type of object shift in precisely this information-structural property of the moved object. A question related to this issue is whether the EPP suffices as a trigger for the object movement in pseudogapping, given the contrastiveness of the remnant pointed out above.

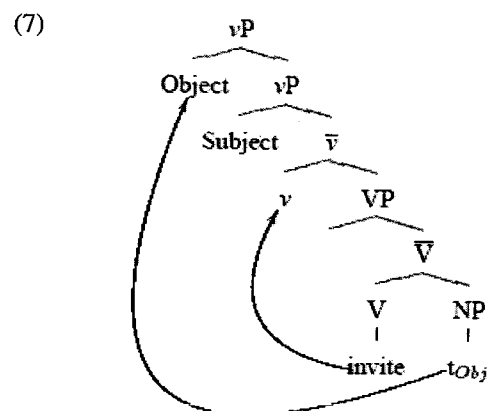
#### 3.2.1 A Structural Problem

In order to determine where the object moves to, due to the EPP, it is highly instructive to transfer Lasnik's (1999) analysis into an Agr-less system (as in the current minimalist framework). Interestingly, replacing the Agr<sub>OP</sub> projection with vP yields a configuration where Lasnik's original assumptions (i.e. (6)) face structural problems.



One difference between the two theoretical settings that is crucial here is the assumption that the subject is base-generated in [Spec, vP]. Thus, it blocks movement of the object to this specific position in pseudogapping.

Chomsky (2001) proposes a structure with multiple specifiers, allowing the object to move into the outer specifier of [Spec,vP] (see (7) below). This, however, has undesirable consequences. Firstly, it is not clear why the subject should move, and not the object, since both could potentially be attracted by the EPP-feature on the probe T. Secondly, if the subject moves, the presence of the object in the outer specifier would cause intervention effects. A simple way out of this problem is also suggested by Chomsky (2001): the evaluation of the lower phase vP only takes place in the next higher phase, namely CP. In combination with a second assumption, namely, that elements that have no phonological content neither block movement nor cause intervention effects, movement of the subject to [Spec,TP] is no longer problematic, as can be seen in the example in (8) below.



(8) (guess) what<sub>Obj</sub> [John<sub>Subj</sub> T [<sub>vP</sub> t<sub>Obj</sub> [<sub>tSubj</sub> read t<sub>Obj</sub>]]]

In Chomsky's account, the crucial factor allowing the derivation to go through is the fact that the object has moved out of the outer [Spec,vP].

This argumentation, however, cannot be replicated for pseudogapping. According to Lasnik's analysis, movement of the object out of the phrase containing the EPP-feature is not necessary. In fact, it should even be illicit, due to the fact that the EPP-feature is checked once the object is in [Spec,vP].

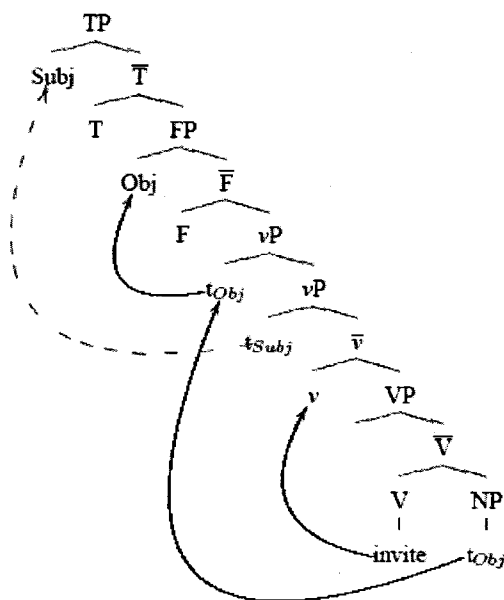
Thus, to be able to accommodate the pseudogapping configuration in the current system, the object needs to vacate the outer specifier of vP, and move higher up in the clause via A-bar movement. The most straightforward assumption, then, would be to establish a position above vP, e.g. an FP ("func-

tional projection”), as in Boeckx (1999, cf. (9) below), or a Focus Phrase, as in Jayaseelan (2001).

### 3.2.2 The Role of the EPP

From the section above, we can conclude that the EPP alone may not be sufficient to derive the pseudogapping configuration—since an additional layer above *vP* is needed that cannot be accounted for with the EPP alone. To determine the properties of this layer, we go back to the contrastiveness of the pseudogapping remnant. Indeed, this is the crucial difference between other instances of EPP-related object movement, as in cases of ECM subjects and particle shift, where no discernible focus (or contrastiveness) seems to arise (for details regarding the object shift account see the discussion in Lasnik 2001).<sup>2</sup>

(9)



<sup>2</sup>Another line of argument to pursue would be based on the assumption that it is indeed the EPP which is responsible for the movement to a position higher than [Spec, *vP*]. Although this might be in line with arguments concerning information-structural properties of the EPP, we would have to assume that there are distinct types of EPP, and a distinction, in my opinion, would be hard to make. Hence, for the purposes of this paper, I will adopt the view that there is an additional feature involved, causing the movement of the object to a position above *vP*.

## 4 Contrastivity

In this section, I put forward the hypothesis that the link to focus and givenness in pseudogapping is what accounts for the presence of the functional layer above *vP* in pseudogapping constructions.

More specifically, the functional layer in question is a Focus phrase (as suggested in e.g. Belletti & Shlonsky 1995, Jayaseelan 2001, and Kim 1997), which interacts with the contrastivity on the object.

### 4.1 The Notion of Contrast

Recent work on information structure (e.g. Lang & Umbach 2002, Molnár 2001) has investigated the role of contrast in driving computations. Lang & Umbach are particularly concerned with contrast in coordinated constructions and parallelism. They propose the following minimal definition of contrast, which I will adopt here:

(10) Minimal Definition:

- Two grammatically specified units X and Y can be contrastive if
- structurally, X and Y have the same format,
  - X and Y are found in parallel places in their respective contexts,
  - X and Y carry the meaning of alternatives.
- (Lang & Umbach 2002:147, my translation)

### 4.2 Implementing Contrast: The Contrastivity Feature

In order to implement this concept of contrast, I propose that a [+contrastive]-feature exists on the element contrasted with its antecedent. This feature (i) captures the impossibility of deleting focused or new material, i.e. blocks deletion of a phrase when present in that particular phrase, and (ii) triggers movement of contrasted elements out of the phrase marked for deletion.

## 5 The Deletion Process

### 5.1 The *E-Feature* (Merchant 2001)

Merchant (2001) introduces the *E*-feature in his analysis of Sluicing (in (11)), which is later extended to other ellipsis types (Merchant 2004). After a short review of how this feature works in its original definition, I show how



the mechanism can be modified in order to subsume other types of E-features that Merchant assumes in his (2004) paper.

The E-feature is defined such that it instructs the grammar to delete the lexical material situated below the head bearing the E-feature. This deletion takes place on the PF level. The E-feature is based on the notion of *E-Givenness*, modelled on Schwarzschild's (1999) Givenness. *E-Givenness* introduces the notion of focus in ellipsis structures (cf. also Rooth 1992 in this respect). The definition of *E-Givenness* is given in (12), along with the condition on VP ellipsis in (13) (for details see Merchant 2001).

(11) *E-Givenness*:

An expression E counts as E-Given iff E has a salient antecedent A and, modulo  $\exists$ -type shifting,

a. A entails F-clo(E), and

b. E entails F-clo(A).

(12) Focus condition on VP ellipsis

A VP  $\alpha$  can be deleted only if  $\alpha$  is E-Given.

(13) Jack bought something, but I don't know what  $\emptyset$ .<sup>3</sup>

Merchant (2001) proposes that the E-feature for Sluicing (in 11) works as illustrated in (12) and (13). He assumes that Sluicing is TP deletion.

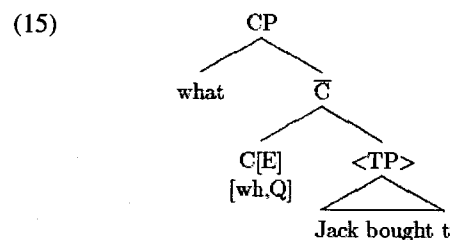
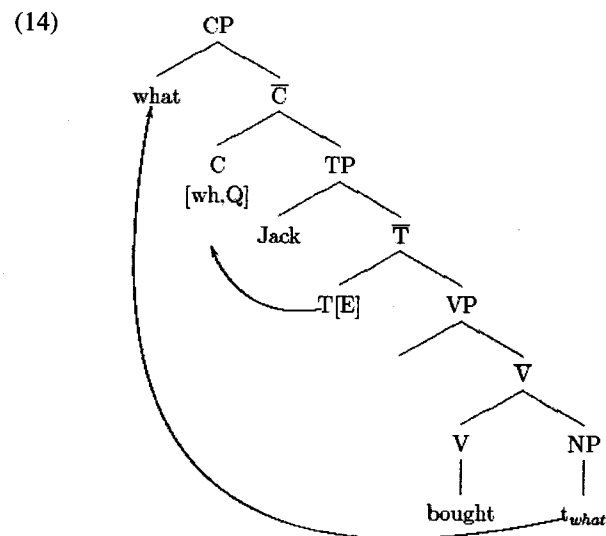
Moreover, the E-feature in Sluicing is specified as being [+wh,+Q]. It is generated in T (cf. (14)) and moves up to C, where its *wh*-feature is checked. In C, it then instructs its sister node, <TP>, to delete, as shown in (15).

## 5.2. The Revised E-Feature (Gengel 2006)

In pseudogapping, the E-feature is placed on V, since the identical V makes the VP available for deletion. Whilst the E-feature for pseudogapping could work similar to the one in Sluicing, i.e. move up to *v* to interact with the EPP-feature, the question arises whether this instance of feature movement is necessary in the first place. To implement this interaction with different features, Merchant (2004) proposes that there exist different types of E-features for different types of ellipsis. Given the possible account for pseudogapping below, I suggest that the different types of E-features could be unified into a single E-feature with a slightly modified definition. As can be seen from the pseudogapping configuration in (17), it is also conceivable that the E-feature stays on V, if it is modified such that it does not instruct its sister to be deleted, but rather the maximal projection on whose head it is placed. This

<sup>3</sup>Merchant (2001), p. 3, his (1a).  $\emptyset$  indicates deleted material.

definition is particularly interesting for pseudogapping. If the E-feature indeed remains on V, it could yield a straightforward explanation for why the



verb does not raise to *v*, as it would in non-pseudogapping cases. If the E-feature were to raise in pseudogapping (and VP ellipsis), we could not derive an appropriate deletion configuration, since, although the VP could be deleted, the verb would still remain, outside the VP.

Hence, I propose the following:

(16) Revised E-Feature (Gengel 2006)

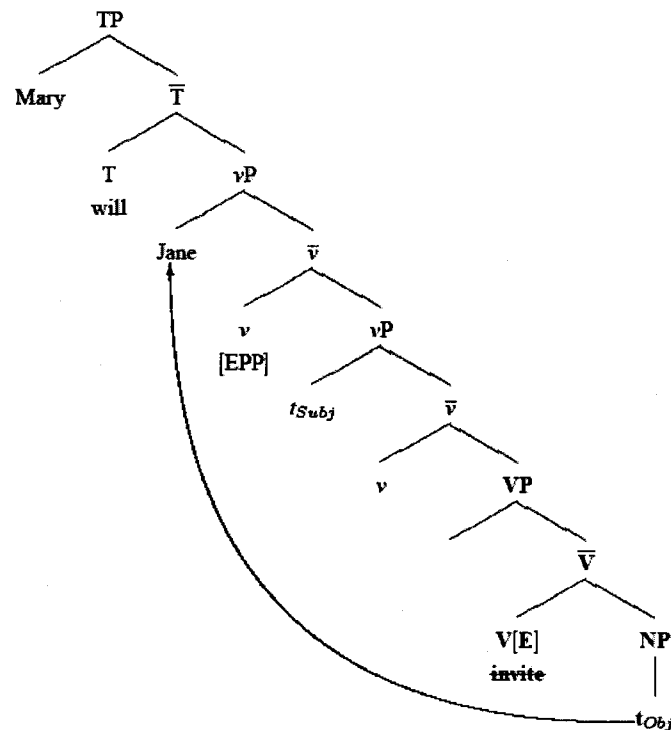
The E-feature, placed on the head X of a phrase XP, deletes the full XP.

## 6 A Uniform Account of Ellipsis

In this section I will show how the E-feature and the contrastivity feature can be combined to yield a uniform picture of the deletion processes in different ellipsis types, in particular, pseudogapping and gapping.

The combination of the two features captures the intuition that given material can be deleted, whilst non-given material cannot be deleted and must be moved out of a phrase undergoing deletion. The E-feature marks the "redundant" element with respect to the antecedent and specifies the whole maximal projection of the head that bears the E-feature for deletion. This deletion can only take place, however, if the contrastivity feature has triggered movement of the contrasted material out of the phrase specified for deletion.

- (17) John invited Sarah, and Mary will [<sub>Agr-O</sub> Jane<sub>i</sub>] [<sub>VP</sub> ~~invite~~ t<sub>i</sub>]



### 6.1. The Pseudogapping Derivation

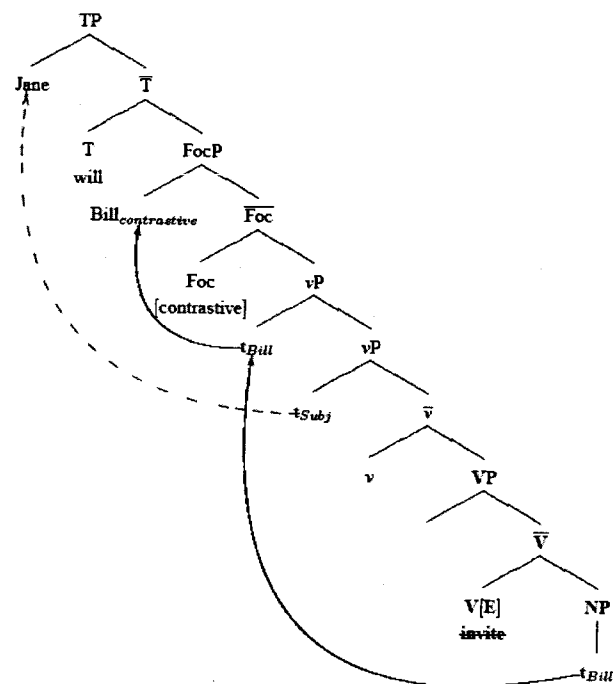
In (18) below, the derivation proceeds as follows: The V (*invite*) is marked with the E-feature, hence specified for deletion. The head bearing the E-feature induces the deletion of its maximal projection. If the maximal projection (VP) contains any material bearing the [contrastive]-feature, deletion does not yet take place. The element bearing the [contrastive]-feature is moved out of the phrase specified for deletion. The [contrastive]-feature is checked in a Spec-head relation in FocP. Deletion of the phrase, now containing only given material, ensues.

### 6.2 The Gapping Derivation

The combination of the E-feature with a contrastivity feature permits us to treat gapping as ellipsis (TP deletion), and to account for the need of a contrastive subject in the Gapping cases, as illustrated in (20), where (20b) is ruled out because the subjects in the antecedent and second conjunct are coindexed.

(18) John invited Mary, and Jane will \_ Bill.

(19)



- (20) a. Claire read a book, and Heather a magazine.  
 b. \*Claire read a book, and she a magazine.  
 c. Claire<sub>i</sub> read a book, and SHE<sub>k</sub> a magazine.

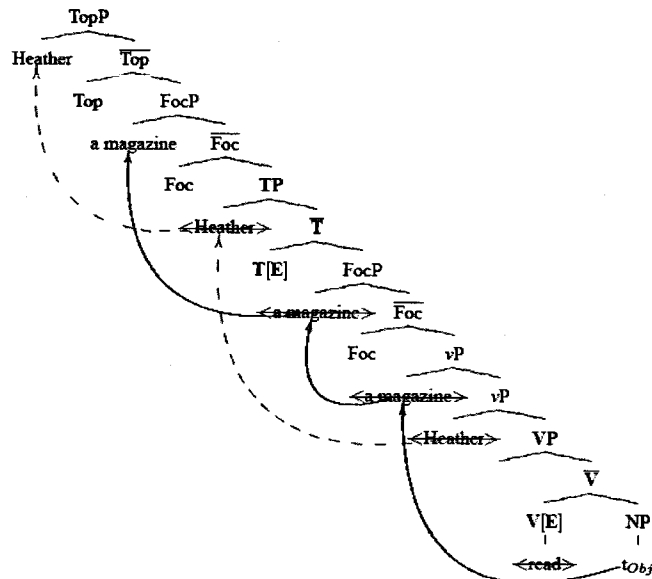
Gapping arguably involves a *contrastive topic*—*contrastive focus* structure (as assumed in Gergel, Gengel & Winkler, to appear, a.o.). As in pseudogapping, the E-feature is placed on the “redundant” elements with respect to the antecedent, namely, T and V in the gapping construction. On the VP level, the derivation proceeds like in pseudogapping, with the remnant moving up to the outer specifier of vP and then on to [Spec,FocP], as illustrated in (21). On the TP level, however, the E-feature on T does not allow the presence of focused material in its complement position. Hence, the complement needs to move higher up in the clause.

Building on proposals by Rizzi (1997), I assume that there are positions available for movement in the C-domain:

- (21) ForceP... TopP... FocP... FinP (Rizzi 1997:288)

The contrastive object remnant moves into the specifier of a Focus phrase, situated below the Topic phrase. Both Topic and Focus phrases serve to check the contrastivity feature.

- (22) Claire read a book, and Heather a magazine.  
 (23)



The movement of the subject into a Topic position thus accounts for (a) the general contrastivity of the subject in Gapping, and (b) the non-coreferential reading if the subject pronoun is focused, as in (20) above.

## 7 Conclusion

In this paper I have discussed the problem of contrastivity on the pseudogapping remnant. Combining approaches by Lasnik (1995) and Merchant (2001), I have sought to include this information-structural peculiarity into the derivation of Pseudogapping. I have introduced a [contrastive]-feature to capture the required contrastivity on the Pseudogapping remnant. The E-feature marks the 'redundant' element and specifies the whole maximal projection of the head that bears the E-feature for deletion. The [contrastive]-feature marks the contrastive material and triggers its movement out of the phrase marked by the E-feature before the phrase is deleted. The modification of the mechanism invoked by the E-feature, in combination with a contrastivity feature on contrastive elements, permits a uniform picture of various types of ellipsis.

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